May 4, 2017

Via Electronic Filing

Diane Davis
Rules Coordinator
Public Utility Commission of Oregon
P.O. Box 1088
Salem, OR 97308

Re: Comments of the Institute for Local Self-Reliance in the matter of Community Solar Rulemaking / Docket No. AR 603

Dear Ms. Davis:

Thank you for the opportunity to comment on Oregon's forthcoming rules for community solar. The Institute for Local Self-Reliance has provided expert research on community renewable energy for over a decade and looks forward to the development of Oregon's program.

To begin, we would emphasize four key principles of well-designed programs addressed in ILSR's 2016 report on community renewable energy: tangible benefits, flexible forms of ownership, increasing renewable energy, and access to all.[1] Already, Oregon's program looks to score well on the final three principles. It offers non-utility ownership models, it will increase deployment of renewable energy, and its low-income program will help expand access.

Tangible Benefits

Providing tangible benefits is a key consideration, and ILSR recommends that the compensation for participants reflect an accurate and thorough assessment of the value of energy provided. Such an analysis should include, at a minimum, the following elements:

- Avoided energy
- Avoided distribution and transmission capacity
- Avoided distribution and transmission losses
- Avoided generation capacity

[1] Report: Beyond Sharing – How Communities Can Take Ownership of Renewable Power, http://bit.ly/2pIDsIE

- Avoided federal and state compliance costs
- Avoided criteria pollutant costs
- Hedge value of zero fuel cost energy
- The social cost of carbon

Additionally, compensation should be fixed over at least a 10-year -- and preferably longer -- timeframe in order to ensure projects can secure financing. Variable pricing has proven anathema to project development.

Access to All

Although the framework for Oregon's community solar program rules already includes a set-aside for low-income customers, ILSR would like to share modified comments we recently filed in Minnesota regarding broadening access for community solar. It begins with a set of shared principles offered by ILSR and allied signers.

Principles of Universal Access to Community Solar

- Participation: everyone should be able to participate in community solar, from education and development to subscription and ownership; projects should be located throughout the utility service territory; and community solar programs should maximize low-income participation, subscription, and employment.
- Location: community solar projects should favor locations that present the highest value to the grid and are closest to subscribers, that use existing structures, and that minimize siting on prime agricultural land.
- Financial Value and Ownership: community solar programs should favor subscriber-owned projects, allow for a variety of ownership structures, and provide both initial and long-term financial value to participants (including pass-through benefits for low-income renters whose landlords opt in).
- Integration: community solar should integrate with existing low-income energy assistance, energy efficiency, and weatherization programs.
- Tracking and Review: participation by low-income subscribers, as well as their energy savings, should be tracked on a per-project basis and reported in the aggregate to the Commission; workforce participation should be tracked by race and overall worker income level, and reported in the aggregate to the Commission; programs should be evaluated periodically against program goals, with options for adjustment.

Long-Term Strategies for Broadening Access to Community Solar

Fostering low-income access to community solar falls into two broad sets of strategies: (i) targeted policies that lower costs and barriers to low-income participation specifically, and (ii) policies that reduce barriers for everyone. We believe the Commission should consider a series of policies successfully implemented in other states, including those listed below, in order to shape standards for more inclusive community solar in Oregon. These recommendations are sorted based on the timing of required intervention in the development process in order to include them in a community solar project.

Pre-Development

These policies address community solar development before application and interconnection, including minimum participation mandates, preferential points or incentives, and coordinating customer acquisition with customers receiving public bill payment assistance.

Three states have tried **minimum low-income participation mandates** in their community shared solar programs. Colorado is the only one that has thus far reported significant low-income participation. It recently shifted away from a per-project minimum in favor of a per-program target, with the utility serving as the backstop for reaching prospective low-income participants. Colorado legislation, passed in 2010, requires developers to reserve 5% of electricity generated from each community solar garden for subscription by low-income households in order for their projects to qualify for state Renewable Energy Credits. Because of this move, the target became the ceiling for participation, as developers simply wrote off 5% of the project to comply and donated the shares to low-income recipients. A recent settlement agreement with the state tweaks the program, requiring the coordinating utility -- also Xcel Energy -- to aggregate the low-income requirement from commercial solar gardens and build one or two installations expressly for low-income customers.[2] Developers are expected to tap grants for low-income solar gardens, and Xcel will make Renewable Energy Standard Adjustment funds available. Xcel customers pay 2% of their bills into the fund, to promote renewables.

In New York, the first phase of the state's Community Distributed Generation program favored proposals including 20% or greater low-income participation, offering them

[2] Energize Weekly, https://www.euci.com/xcel-plans-for-large-low-income-solar-energy-program-in-colorado/

expedited interconnection. However, no projects were installed under Phase I, due to a number of factors such as pending changes to community solar compensation, overarching interconnection difficulties, and the rapid expiration of the Phase I program.

Maryland's community solar program sets aside 30% of total program capacity for solar installations that serve low- and moderate-income households.[3] The program is in its infancy, however, and provides no lessons learned to date.

In short, goals for proportional or maximum low-income participation are important and do result in low-income participation. However, mandates for participation do not address the underlying barriers of outreach or access to capital nor do they ensure meaningful energy savings. In other words, they should be paired with tools to address the other barriers.

Lowering costs for low-income projects and giving them preferential treatment in queue status represent another set of crucial tools. In New York, NYSERDA recently announced funding to support community organizations in several pre-development activities, including customer acquisition and education, securing financing, and creating legal agreements with project developers.[4] Given its recency, we have no evidence yet of the success.

Ontario's feed-in tariff program (with capacity caps) gives priority points, provides per-kilowatt-hour adders, and reduces application fees for projects with aboriginal, community, or municipal ownership.[5] The program's fourth round in 2016 awarded contracts for a combined 241 megawatts of new generation, spread across 936 projects.[6] Of those, 96 projects (41 megawatts) had aboriginal support, 186 (60 megawatts) had community ownership, and 413 (67 megawatts) had municipal or public sector participation.

Financial aid to projects in pre-development can certainly funnel more projects serving low-income customers into the queue.

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[3] Groundswell, https://groundswell.org/what-marylands-new-guidelines-mean-for-community-solar/
[4] NYSERDA, https://www.nyserda.ny.gov/About/Newsroom/2016-Announcements/2016-12-06-Governor-Cuomo-Announces-Millions-Available-to-Help-LMI-Residents
[5] Ontario Power Authority, http://fit.powerauthority.on.ca/program-resources/faqs/aboriginal-participation
[6] Ontario Power Authority, http://fit.powerauthority.on.ca/newsroom/newsroom-2016/June-29-2016-Contracts-Offered-for-FIT-4

The state can also **coordinate its energy assistance programs with community solar**. The Oregon state agency responsible for managing energy assistance programs, and the corresponding local community action agencies, should direct their clients to the community solar program (where applicable). The program administrator, community solar garden operator, and subscriber organization should coordinate and work in partnership with energy assistance providers/community action agencies to sign up low-income subscribers. Subscriptions could be designated for energy assistance recipients and the benefits passed through. Participants' community solar subscriptions and benefits should be considered an integral piece of their overall energy assistance package and work with (and not reduce benefits of) energy assistance, energy efficiency/weatherization programs, etc.

Location and Siting

Some community solar programs direct the placement of community solar facilities, in order to secure second-order benefits such as jobs and economic development for traditionally underserved communities.

California requires 100 megawatts (MW) of its 600 MW solar program to be located in "disadvantaged communities," though the policy does not specify whether subscribers themselves must be low-income. Still, this mandate may result in greater opportunity for workforce development in these communities. It may be worth considering a designation for location as part of a low-income program if combined with a workforce development initiative.

Other solar installation programs provide a model for workforce development, including California's Single-family Affordable Solar Homes (SASH) program. Every SASH installation team includes either local volunteers or graduates from related job training programs, providing them hands-on experience. Crews on sub-contracted installations must include at least one paid job trainee. Through 2016, more than 6,800 people pursuing careers in the solar industry have received training through SASH projects -- nearly 250,000 hours of combined experience.[7]

[7] GRID Alternatives, http://gridalternatives.org/sites/default/files/Semi%20Annual%20SASH%20Program%20Status%20Report_January%202017.pdf

A sister program, Multifamily Affordable Homes (MASH), also requires contractors to staff job trainees -- up to five, based on the size of the project.[8]

Application and Interconnection

The cost and complexity of applying to the community solar program can also present barriers to projects serving low-income participants, who may be harder to reach and require more financial security. In particular, waiving fees can reduce costs for projects trying to reach low-income subscribers:

- Application and Interconnection fees are a significant portion of the cost of project development. As recommended by Fresh Energy in comments to the Minnesota Public Utilities Commission on April 1, 2016, low-income community solar projects could benefit from exemption from the $100-per-kilowatt application deposit and engineering study fees required in the interconnection process.[9]
- Ontario's feed-in tariff program (with capacity caps) gives priority points and per-kilowatt-hour adders, and reduces application fees for projects with aboriginal, community, or municipal ownership.[10]

Subscriber Compensation

An adder for low-income subscribers could offset higher costs for acquiring and serving low-income customers, as seen with higher compensation for participants in smaller community solar projects. It's also essential that community solar subscriptions not jeopardize access to energy assistance funds such as the Low Income Home Energy Assistance Program (LIHEAP), by including both the cost and savings from community solar subscriptions in the calculations of energy burden.

- Minnesota's community solar program and Ontario's feed-in tariff both provide incentives for projects with certain characteristics, such as size or ownership. Maryland sets aside capacity for smaller than 500 kilowatt projects.[11]
- Under Washington DC's Affordable Solar Program, income-qualified residents (both homeowners and renters) can opt in to solar installations at no cost.[12] A

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[8] Center for Sustainable Energy, https://energycenter.org/sites/default/files/docs/nav/buildings/businesses/solar_pv/mash/MASH_Job_Training_Affadavit.pdf
[9] Minnesota Public Utilities Commission, https://ilsr.org/wp-content/uploads/2016/05/13-867-Low-Income-CSG-Draft-3.18.16-Clean.docx
[10] Ontario Power Authority, http://fit.powerauthority.on.ca/program-resources/faqs/aboriginal-participation
[11] Maryland Scores 3 out of 4 on Principles for a Good Community Solar Program, http://bit.ly/2pFyADW
[12] GRID Alternatives, http://gridalternatives.org/regions/midatlantic/news/dcseu-solar4all-program-wraps

forthcoming iteration of the program promises to extend the subsidized offer through a newly launched community solar program.

- The Massachusetts Green Communities Act of 2008 includes a carve-out that guarantees solar installations serving low-income customers receive a higher ratio of Renewable Energy Credits for each MWh produced, helping to offset costs.[13] The state's new SMART program includes bonus payments for solar projects serving low-income customers, and those with other location and off-taker characteristics.[14]

Lowering Financing Risk and Cost

Of all the potential solutions to increasing low-income participation in community solar, policies that directly address the issue of financial wherewithal and credit risk will likely have the largest impact. Financing tools that expand access without means-testing may also lower administrative costs, since means-testing subscribers or cross-referencing with existing energy assistance recipients is non-trivial. There are several options.

A tool introduced last year is the "**backup subscriber**," which would allow institutional subscribers to act as the backstop for churn or default of low-income participants. Fresh Energy proposed this in Minnesota in April 1, 2016, comments.[15] The "backup" framework, designed well, reduces concerns about taking on subscribers otherwise deemed risky by traditional financiers. The backup subscriber model also encourages developers to exceed minimum low-income participation thresholds, because the only limit is the capacity of the anchor institution (or the 40% limit on the share of project electricity).

Loan loss reserve funds (or loan guarantees) have long been used to eliminate risk from novel investments, and could be used to attract financing for community solar projects serving low-income participants. Loan loss reserve programs keep public funds on hand to cover a loan provider's losses if a customer defaults. The Mass Solar Loan Program, for example, offers loans to moderate-income customers to purchase community solar subscriptions, while at the same time offsetting credit risk for lenders.[16] [17]

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[13] Low-Income Solar Policy Guide, http://www.lowincomesolar.org/models/single-family-massachusetts/
[14] The New 1,600 MW Solar Program for Massachusetts Really is SMART, http://bit.ly/2pIPD8p/
[15] Minnesota Public Utilities Commission, https://ilsr.org/wp-content/uploads/2016/05/13-867-Low-Income-CSG-Draft-3.18.16-Clean.docx
[16] Mass Solar Loan, http://www.masssolarloan.com/
[17] Massachusetts Clean Energy Center, http://files.masscec.com/solar-loan/MassSolarLoanProgramManual.pdf

Pay-as-you-go subscriptions allow customers to avoid upfront charges and instead cover subscription costs over time, as their energy savings come in. This payment plan can be offered by the developer, but typically requires a prime credit score (or a credit backstop like the backup subscriber or loss reserve). Utilities can also offer payment plans using a opt-in tariff.

- Tariff-based or inclusive financing is used by a number of electric cooperatives to support investments in energy efficiency or on-site renewable energy.[18] Utilities could initially cover the upfront cost of subscriptions for income-qualified customers that opt in and set the repayment terms such that the investment would be cashflow positive from day one. Broadening access to all customers regardless of income, as is done in most inclusive financing programs, would cut administrative costs associated with income-qualifying access.
- Grand Valley Power, a co-op in Colorado, offers a $0 down option for its member-owners (regardless of credit check) to buy into a solar farm.[19] [20] Subscribers pay a $15 monthly charge for four years, then see an average of $4 per month in bill credits over a 20-year term.
- The acceptance rate for participation in Ouachita Electric's energy efficiency program in Arkansas exceeds 90% for customers who have an energy assessment completed, because inclusive financing is available to anyone without requiring a credit check.[21]

We are delighted at Oregon's forthcoming community solar program and appreciate this opportunity to share best practices from other states in this docket.

Sincerely,
/s/
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[18] Institute for Local Self-Reliance, https://ilsr.org/report-inclusive-energy-financing/
[19] Grand Valley Power, http://www.gvp.org/content/solar-farm
[20] Solar Electric Power Association, http://solaroutreach.org/wp-content/uploads/2015/08/SEPA_SolarOPsCaseStudy_GVP_FINAL.pdf
[21] Ouachita Electric Cooperative, https://www.oecc.com/help